What is claimed is:

1. A method for producing an ethylene-vinyl alcohol copolymer resin, which comprises:

introducing into an apparatus an ethylene-vinyl alcohol copolymer solution that contains at least 50 parts by weight of an alcohol having a boiling point of not higher than 100°C, relative to 100 parts by weight of the ethylene-vinyl alcohol copolymer, and contacting the solution with water in the apparatus, thereby letting alcohol along with water out of the apparatus and transferring the resulting aqueous ethylene-vinyl alcohol copolymer composition that contains from 0 to 10 parts by weight of the alcohol and from 10 to 1000 parts by weight of water, relative to 100 parts by weight of the ethylene-vinyl alcohol copolymer, out of the apparatus (step 1), and

feeding the aqueous ethylene-vinyl alcohol copolymer composition into an extruder, kneading it in melt therein, and then extruding the copolymer out of the extruder (step 2).

2. The method of claim 1, wherein the ethylene content of the ethylene-vinyl alcohol copolymer is between 3 and 70 mol% and the degree of saponification is at least 80 mol%.

3. The method of claim 1, wherein the alcohol is

methanol.

4. The method of claim 1, wherein in the step 1, the ethylene-vinyl alcohol copolymer solution is contacted with water vapor in the vessel.

5. The method of claim 4, wherein the ethylene-vinyl alcohol copolymer solution is continuously introduced into a column vessel and contacted with water vapor in the vessel.

6. The method of claim 5, wherein the ethylene-vinyl alcohol copolymer solution is introduced into the vessel through its upper part and water vapor is introduced into the vessel through its lower part thereby causing the ethylene-vinyl alcohol copolymer solution to contact the water vapor in countercurrent flow, and the resulting aqueous ethylene-vinyl alcohol copolymer composition is transferred out of the vessel through its lower part with alcohol being let out along with water vapor through its upper part.

7. The method of claim 1, wherein in the step 2, the temperature of the resin melt in the extruder is between 70 and 170°C.

8. The method of claim 1, wherein in the step 2, the water

content of the extruded resin melt is between 5 and 40 % by weight.

9. The method of claim 1, wherein in the step 2, water is fed into the extruder or excess water is removed from the extruder to control the water content of the resin in the extruder.

10. The method of claim 1, wherein in the step 2, the aqueous ethylene-vinyl alcohol copolymer composition is kneaded in melt in the extruder with at least one additive selected from carboxylic acids, boron compounds, phosphoric acid compounds, alkali metal salts and alkaline earth metal salts.

11. The method of claim 10, wherein the additive is introduced into the extruder an aqueous solution.

12. The method of claim 1, wherein in the step 2, a wash is introduced into the extruder and is discharged from the extruder through at least one site downstream from the wash inlet site to remove the saponification catalyst residue from the resin melt.

13. The method of claim 1, wherein the aqueous

ethylene-vinyl alcohol copolymer composition of step 1 is cut into pellets prior to being fed into the extruder.

14. The method of claim 13, wherein the pellets are dipped in a wash to remove the saponification catalyst residue prior to being fed into the extruder.

15. The method of claim 14, wherein the pellets are continuously washed in a column vessel.

16. The method of claim 13, wherein the pellets are dipped in an aqueous solution containing at least one additive selected from carboxylic acids, boron compounds, phosphoric acid compounds, alkali metal salts and alkaline earth metal salts prior to being fed into the extruder.

17. The method of claim 1, wherein the aqueous ethylene-vinyl alcohol copolymer composition of step 1 is fed, uncut, into the extruder.

18. The method of claim 17, wherein the aqueous ethylene-vinyl alcohol copolymer composition is fed, uncut, into the extruder and a wash is fed into the extruder and discharged from it through at least one site downstream from the wash inlet site to remove the saponification catalyst

residue from the resin melt.

19. A method for producing ethylene-vinyl alcohol copolymer resin pellets, which comprises cutting the ethylene-vinyl alcohol copolymer resin extruded in step 2 in the method of claim 1.

20. The method of claim 19, wherein the pellets are dried and cut to have a water content of at most 1 % by weight.

ABSTRACT

Provided is a method for producing an ethylene-vinyl alcohol copolymer resin that ensures efficient removal of alcohol without worsening the working environment. The method comprises introducing an ethylene-vinyl alcohol copolymer solution containing at least 50 parts by weight of an alcohol having a boiling point of not higher than 100°C, relative to 100 parts by weight of the ethylene-vinyl alcohol copolymer therein, into an apparatus, and contacting it with water in the apparatus, thereby letting the alcohol along with water out of the apparatus and taking the resulting aqueous ethylene-vinyl alcohol copolymer composition that contains from 0 to 10 parts by weight of the alcohol and from 10 to 1000 parts by weight of water, relative to 100 parts by weight of the ethylene-vinyl alcohol copolymer therein, (step 1), and a step of feeding the aqueous ethylene-vinyl alcohol copolymer composition into an extruder, kneading it in melt therein, and then extruding the copolymer out of the extruder (step 2). Also provided is a method for producing pellets of the ethylene-vinyl alcohol copolymer resin, of which the advantages are that the method enables stable production and rapid washing of the pellets and that the pellets produced can enjoy stable extrusion and thermal stability in long-run extrusion working lines. The method comprises cutting the ethylene-vinyl alcohol copolymer resin extruded out of the extruder in the step 2 in the resin

production method.

Fig. 1

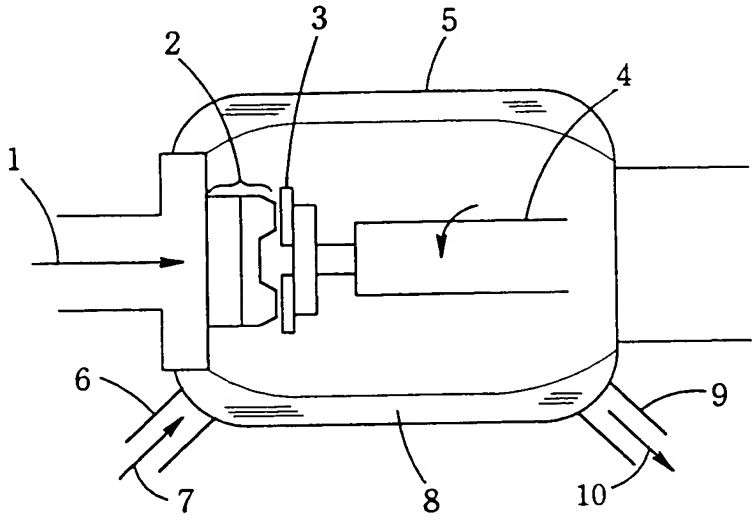


Fig. 2

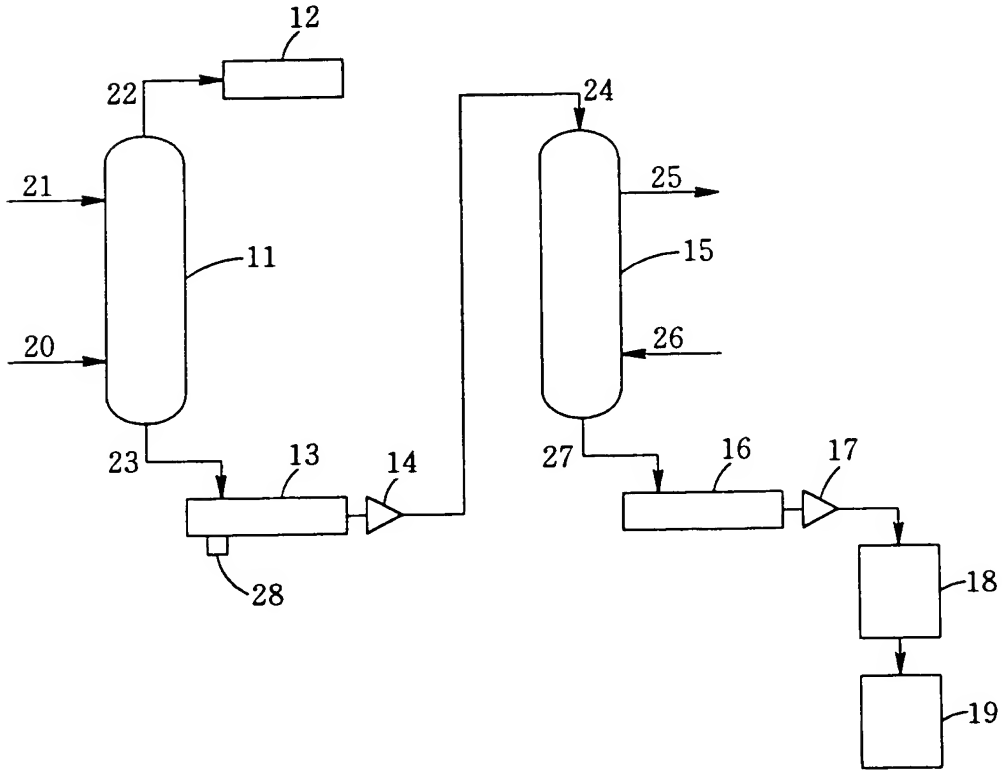

Fig. 3

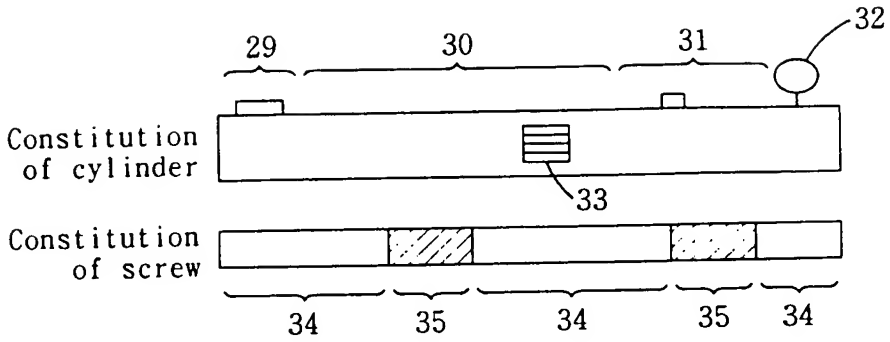


Fig. 4